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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,669	12/30/2003	Victor Pinto	ZRAN.040US0	9760
36257	7590	07/12/2007		
DAVIS WRIGHT TREMAINE LLP 505 MONTGOMERY STREET SUITE 800 SAN FRANCISCO, CA 94111			EXAMINER GILES, NICHOLAS G	
			ART UNIT 2622	PAPER NUMBER
			NOTIFICATION DATE 07/12/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	Application No. 10/749,669	Applicant(s) PINTO ET AL.	
	Examiner Nicholas G. Giles	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20, 21 and 24 is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 11, 15-17, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 12-14, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                 | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/222412 in view of Nishioka et al. (U.S. Patent No. 6,195,469). In claim 1 the elliptical or hyperbolic intensity pattern is not mentioned in the copending application claim 1, however Nishioka suggests using an ellipse for shading data in 7:21-39. Nishioka mentions that an advantage to using an ellipse is that the ellipse like shading behavior of a lens can be corrected in 6:64-10. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the

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elliptical intensity pattern included as part of the copending application. Claims 2-7 can be matched to claims 2-7 of the copending application

This is a provisional obviousness-type double patenting rejection.

3. Claims **22 and 23** provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 22 and 23 of copending Application No. 10/222412 in view of Suzuki (U.S. Pub. No. 2002/0025164). In claim 22 the two or more distinct geometric shapes is not mentioned in the copending application claim 22, however Suzuki suggests using two or more distinct geometric shapes in ¶0010-0012 and Fig. 24. An advantage to this Suzuki mentions in ¶0011 is that the luminance corrections required due to shading can be obtained for each region formed from the shapes and stored in ROM as a correction table. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to have two or more distinct geometric shapes for the intensity output pattern. Claim 23 can be matched to claim 23 of the copending application.

This is a provisional obviousness-type double patenting rejection.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasai et al. (U.S. Patent No. 7,098,945) in view of Nishioka et al. (U.S. Patent No. 6,195,469).

Regarding claim 1, Sasai et al. discloses:

For a digital video signal obtained from a photo-sensor having a two-dimensional array of individual pixels with an optical field incident thereon wherein the video signal of the optical field is altered according to an additional intensity distribution pattern across the array, a sequence of outputs of the individual pixels resulting from said pixels being linearly scanned across the optical field forming the photo-sensor digital video signal, a method of modifying the video signal to correct for the intensity distribution pattern, comprising: maintaining modification data of the intensity distribution pattern as a function of radial distances of the pixels from an optical center of the intensity distribution pattern across the sensor (8:41-9:57), calculating the radial distances of the individual pixels being scanned from their linear position within the two-dimensional array (8:41-9:57), generating modifications for the individual pixels being scanned from the image modification data being accessed by the calculated radial distances thereof (8:41-9:57), and combining the generated image modification data with the outputs of the corresponding individual pixels being scanned, thereby modifying the sequence of

outputs of the individual pixels according to the image modification data (8:41-9:57).

Sasai is silent with regards to an elliptical or hyperbolic intensity pattern.

Nishioka suggests using an ellipse for shading data in 7:21-39. Nishioka mentions that an advantage to using an ellipse is that the ellipse like shading behavior of a lens can be corrected in 6:64-10. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the elliptical intensity pattern included as part of the intensity distribution pattern in Sasai.

Regarding claim 2, see the rejection of claim 1 and note that Sasai et al. further discloses:

Calculating, generating and combining steps are performed for the individual pixels being scanned at least as fast as the sequence of outputs of the pixels being scanned appear in the video signal outputted from the image sensor (9:58-10:3 and 11:5-12:19, if the process wasn't preformed as fast as data is obtained then data would be lost before reaching the storage sections 9 and 9A in Figs. 1A and 1B).

Regarding claim 3, see the rejection of claim 1 and note that Sasai et al. further discloses:

Image modification data being maintained includes correction in the outputs of the individual pixels for intensity variations across the optical field that are introduced by any one or more of an optical system imaging the optical field on the sensor, by variations in sensitivity across the

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sensor itself, or by light reflections off the internal surfaces of the enclosure which houses the optical system and sensor (9:58-10:3, vignetting).

Regarding claim 4, see the rejection of claim 1 and note that Sasai et al. further discloses:

Maintaining the image modification data includes maintaining a plurality of sets of image modification data for the individual pixels being scanned, one set of data for each of a plurality of color components of the optical field (6:7-8:36 and 11:61-67).

Regarding claim 5, see the rejection of claim 1 and note that Sasai et al. is silent with regards to the maintaining, calculating, and generating functions are all accomplished on a single integrated circuit chip. Examiner takes Official Notice that it was well known in the art at the time the invention was made to combine circuitries of different functions onto one chip. An advantage to do so is that wires are not needed to transfer signals between chips. This also saves space because wires take up space that then can't be utilized for other circuitries. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Sasai correction device include maintaining, calculating, and generating functions all taking place on a single integrated chip.

Regarding claim 6, see the rejection of claim 5 and note that Sasai et al. further discloses:

Maintaining, calculating and generating functions are all performed by electronic circuits dedicated to carrying out those functions (9:58-10:3 and 11:5-12:19).

6. Claim **15** is ~~not~~ rejected under 35 U.S.C. 103(a) as being unpatentable over Sasai et al. (U.S. Patent No. 7,098,945) in view of Suzuki (U.S. Pub. No. 2002/0025164).

Regarding claim **15**, Sasai et al. discloses:

A method of modifying a digital video signal from a photo-sensor having a two-dimensional array of individual pixels to compensate for an intensity variation pattern imposed upon an optical field incident thereon, comprising: maintaining image modification data derived from characterizing the intensity variation pattern (8:41-9:57), generating modifications for the individual pixels being scanned from the image modification data (8:41-9:57), and combining the generated image modification data with the outputs of the corresponding individual pixels being scanned, thereby modifying the outputs of the individual pixels according to the image modification data (8:41-9:57).

Sasai et al. is silent with regards to the intensity variation pattern being a combination of two or more geometric shapes that are combined to define the pattern by a single optical center and single defined shape. Suzuki suggests using two or more distinct geometric shapes in ¶0010-0012 and Fig. 24. An advantage to this Suzuki



mentions in ¶0011 is that the luminance corrections required due to shading can be obtained for each region formed from the shapes and stored in ROM as a correction table. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Sasai use a combination of two or more geometric shapes that are combined to define the pattern by a single optical center and single defined shape.

7. Claims **10-11** are is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasai et al. in view of Nishioka et al. in further view of Suzuki (U.S. Pub No. 2002/0025164).

Regarding claim **10**, see the rejection of claim 1 and note that Sasai et al. is silent with regards to the maintaining modification data of the intensity distribution pattern as a function of radial distances of the pixels from an optical center of the pattern includes defining the pattern to include two or more elliptical or hyperbolic intensity distributions across the sensor. Nishioka suggests using an ellipse for shading data in 7:21-39. Nishioka mentions that an advantage to using an ellipse is that the ellipse like shading behavior of a lens can be corrected in 6:64-10. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the elliptical intensity pattern in Suzuki as part of the intensity distribution pattern in Sasai. Suzuki suggests using two or more distinct geometric shapes in ¶0010-0012 and Fig. 24. An advantage to this Suzuki mentions in ¶0011 is that the luminance corrections required due to shading can be obtained for each region formed

from the shapes and stored in ROM as a correction table. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Sasai define the pattern to include two or more elliptical or hyperbolic intensity distributions across the sensor.

Regarding claim **11**, see the rejection of claim 10 and note that Suzuki further discloses:

Defining the pattern as two or more intensity distributions includes finding a single optical center of the intensity variation pattern and then calculating values of a set of points along a single radius as the modification data (§0010-0012).

An advantage to this Suzuki mentions in §0011 is that the luminance corrections required due to shading can be obtained for each region formed from the shapes and stored in ROM as a correction table. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Sasai define the pattern as two or more intensity distributions and find a single optical center of the intensity variation pattern and then calculating values of a set of points along a single radius as the modification data.

8. Claims **16-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasai et al. in view of Suzuki in further view of Nishioka (U.S. Patent No. 6,195,469).

Regarding claim **16**, see the rejection of claim 15 and note that Sasai and Suzuki et al. are silent with regards to the two or more geometric shapes include circular,

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elliptical or hyperbolic shapes. Nishioka suggests using an ellipse for shading data in 7:21-39. Nishioka mentions that an advantage to using an ellipse is that the ellipse like shading behavior of a lens can be corrected in 6:64-10. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the elliptical intensity pattern in Suzuki as part of the intensity distribution pattern in Sasai.

Regarding claim 17, see the rejection of claim 16 and note that Suzuki further discloses using two or more geometric shapes as a single geometric pattern having an optical center in ¶0010-0012 and Fig. 24. An advantage to this Suzuki mentions in ¶0011 is that the luminance corrections required due to shading can be obtained for each region formed from the shapes and stored in ROM as a correction table. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Sasai include using two or more geometric shapes as a single geometric pattern having an optical center.

### ***Allowable Subject Matter***

9. Claims 7-9, 12-14, and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 7, no prior art could be located that teaches or fairly suggests storing points along a single radius and slopes between the points in combination with the rest of the limitations of the claim.

Regarding claims **8 and 9**, these claims depend on claim 7 and therefore are objected to.

Regarding claim **12**, no prior art could be located that teaches or fairly suggests adding a value to the radial distance calculated for the immediately preceding scanned pixel in combination with the rest of the limitations of the claim.

Regarding claims **13 and 14**, these claims depend on claim 12 and therefore are objected to.

Regarding claim **18**, no prior art could be located that teaches or fairly suggests referencing a single set of data along a radius extending from the optical center that is independent of an angular orientation of the radius in combination with the rest of the limitations of the claim.

Regarding claim **19**, no prior art could be located that teaches or fairly suggests adding a value to the radial distance calculated for the immediately preceding scanned pixel in combination with the rest of the limitations of the claim.

10. Claims **20-21 and 24** are allowed.

Regarding claim **20**, no prior art could be located that teaches or fairly suggests adding an increment to the radius of a preceding individual photo-detector and accessing stored data of elliptical or hyperbolic modifications according to the radial distance in combination with the rest of the limitations of the claim.

Regarding claim **21**, this claim depends on claim 20 and therefore is allowed.

Regarding claim **24**, no prior art could be located that teaches or fairly suggests storing correction data as points on a plurality of continuous curves and the values of

slopes between the points where an individual curve for each color component is defined as an intensity pattern across the optical sensor that have been characterized by at least one ellipse or hyperbola in combination with the rest of the limitations of the claim.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas G. Giles whose telephone number is (571) 272-2824. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc -Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NGG

  
NGOC-YEN VU  
SUPERVISORY PATENT EXAMINER